

Table S1: Colours assigned to calendar dates and corresponding counts of days

day	date	day	date	day	date	day	date
-8	19 May 2015	8	04 Jun 2015	24	20 Jun 2015	40	06 Jul 2015
-7	20 May 2015	9	05 Jun 2015	25	21 Jun 2015	41	07 Jul 2015
-6	21 May 2015	10	06 Jun 2015	26	22 Jun 2015	42	08 Jul 2015
-5	22 May 2015	11	07 Jun 2015	27	23 Jun 2015	43	09 Jul 2015
-4	23 May 2015	12	08 Jun 2015	28	24 Jun 2015	44	10 Jul 2015
-3	24 May 2015	13	09 Jun 2015	29	25 Jun 2015	45	11 Jul 2015
-2	25 May 2015	14	10 Jun 2015	30	26 Jun 2015	46	12 Jul 2015
-1	26 May 2015	15	11 Jun 2015	31	27 Jun 2015	47	13 Jul 2015
0	27 May 2015	16	12 Jun 2015	32	28 Jun 2015	48	14 Jul 2015
1	28 May 2015	17	13 Jun 2015	33	29 Jun 2015	49	15 Jul 2015
2	29 May 2015	18	14 Jun 2015	34	30 Jun 2015	50	16 Jul 2015
3	30 May 2015	19	15 Jun 2015	35	01 Jul 2015	51	17 Jul 2015
4	31 May 2015	20	16 Jun 2015	36	02 Jul 2015	52	18 Jul 2015
5	01 Jun 2015	21	17 Jun 2015	37	03 Jul 2015	53	19 Jul 2015
6	02 Jun 2015	22	18 Jun 2015	38	04 Jul 2015		
7	03 Jun 2015	23	19 Jun 2015	39	05 Jul 2015		

The supplementary material provided enables a more detailed look at data discussed in the paper. The numerical data underlying Fig. 3 and Figs. A1-A4 are made available in ASCII format (see directories DATA_FIG_03 etc.). Each directory contains separate files for each drifter. The first two columns in these files specify longitude and latitude, the last column contains time in the format yyyyymmddhhmmss. The third column provides time in terms of days since 2015-05-27 (13:00 UTC), which is the time coordinate used throughout the manuscript for segmentation of drifter trajectories. Table S1 establishes the explicit relationship between these counts of days and corresponding calendar days. Each day referred to in Table S1 denotes the 24 h period starting at 13:00 UTC of the calendar day specified.

Four separate collections provide full sets of plots of 25 h drifter displacements for the experiments addressed in the paper. The four collections are the following:

SM1-Observations.pdf: Observations for days 0-53. Drift velocities are coloured in agreement with Table S1.

SM2-BSHcmod_vs_TRIM.pdf: Observations (coloured) plus corresponding simulations (black) with BSHcmod (left) or TRIM (right).

SM3-BSHcmod+W_vs_TRIM.pdf: Observations (coloured) plus corresponding simulations (black) with BSHcmod+W (left) or TRIM (right). Panels in Fig. 7 and Fig. 8 of the manuscript display subsets of this collection.

SM4-BSHcmod+W_vs_BSHcmod+S.pdf: Observations (coloured) plus corresponding simulations (black) with BSHcmod+W (left) or BSHcmod+S (right).

Finally, a collection of two plots extends panels Fig. 10(a,b) in the manuscript:

SM5-Full-Version-Fig.10.pdf: Figure S1 (corresponding with Fig. 10(a)) and Fig. S2 (corresponding with Fig. 10(b)) show magnitudes of drift velocities of drifters #5 and #6, respectively, for all days available.